SIEMENS

# Data sheet for SIMOTICS S-1FT7



Figure similar

**Article No. :** 1FT7086-5AF71-1CB0

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

Item no. :
Consignment no. :
Project :

| Engineering data | |
|---|---|
| Rated speed | 3,000 rpm |
| Number of poles | 10 |
| Rated torque (100 K) | 18.0 Nm |
| Rated current | 11.00 A |
| Static torque (60 K) | 23.0 Nm |
| Static torque (100 K) | 28.0 Nm |
| Stall current (60 K) | 12.90 A |
| Stall current (100 K) | 15.50 A |
| Rotor moment of inertia | 79.00 kgcm² |
| Efficiency | 93.0 % |

| Physical constants | |
|---|---|
| Torque constant | 1.78 Nm/A |
| Voltage constant at 20° C | 113.5 V/1000*min$^{-1}$ |
| Winding resistance at 20° C | 0.23 Ω |
| Rotary field inductance | 4.0 mH |
| Electrical time constant | 17.00 ms |
| Mechanical time constant | 1.40 ms |
| Thermal time constant | 60 min |
| Shaft torsional stiffness | 57,000 Nm/rad |
| Net weight of the motor | 31.8 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 | 0.100 mm |
| Axial runout tolerance | 0.100 mm |
| Vibration severity grade | Grade A |
| Degree of protection | IP64 |
| 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 | Fitted key and keyway |
| 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 RJ45 |
| Safety Integrated - Suitable encoder | Yes |
| Electrical connection | Connector turnable |
| Connector size | 1.5 |

| Optimum operating point | |
|---|---|
| Optimum speed | 3,000 rpm |
| Optimum power | 5.7 kW |

| Limiting data | |
|---|---|
| Max. permissible speed (mech.) | 8,000 rpm |
| Max. permissible speed (inverter) | 5,100 rpm |
| Maximum torque | 120.0 Nm |
| Maximum current | 78.00 A |

| Recommended Motor Module | |
|---|---|
| Rated inverter current | 18.00 A |
| Maximum inverter current | 54.00 A |
| Maximum torque | 86.0 Nm |

| Holding brake | |
|---|---|
| Holding brake version | Permanent-magnet brake |
| Holding torque | 48.0 Nm |
| Braking torque | 25.0 Nm |
| Power supply voltage | DC 24 V |
| Coil current | 1.00 A |
| Permissible brake work | 1,900 J |
| Opening time | 220 ms |
| Closing time | 65 ms |

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