

Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7082-5AC71-1DB0



Figure similar

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

Item no. :
Consignment no. :
Project :

Engineering data

| | |
|-------------------------|-------------------------|
| Rated speed | 2,000 rpm |
| Number of poles | 10 |
| Rated torque (100 K) | 11.4 Nm |
| Rated current | 4.90 A |
| Static torque (60 K) | 10.6 Nm |
| Static torque (100 K) | 13.0 Nm |
| Stall current (60 K) | 4.20 A |
| Stall current (100 K) | 5.00 A |
| Rotor moment of inertia | 41.90 kgcm ² |
| Efficiency | 93.0 % |

Physical constants

| | |
|-----------------------------|--------------------------------|
| Torque constant | 2.50 Nm/A |
| Voltage constant at 20° C | 159.5 V/1000*min ⁻¹ |
| Winding resistance at 20° C | 1.38 Ω |
| Rotary field inductance | 21.0 mH |
| Electrical time constant | 15.00 ms |
| Mechanical time constant | 1.80 ms |
| Thermal time constant | 40 min |
| Shaft torsional stiffness | 76,000 Nm/rad |
| Net weight of the motor | 18.3 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 IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits |
| Electrical connection | Connector turnable |
| Connector size | 1 |

Optimum operating point

| | |
|---------------|-----------|
| Optimum speed | 2,000 rpm |
| Optimum power | 2.4 kW |

Limiting data

| | |
|-----------------------------------|-----------|
| Max. permissible speed (mech.) | 8,000 rpm |
| Max. permissible speed (inverter) | 3,500 rpm |
| Maximum torque | 52.0 Nm |
| Maximum current | 26.00 A |

Recommended Motor Module

| | |
|--------------------------|---------|
| Rated inverter current | 5.00 A |
| Maximum inverter current | 15.00 A |
| Maximum torque | 35.0 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 |