

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7103-5AF71-1DB0

No image available for this configuration.

Figure similar

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Engineering data

| | |
|-----------------------|---------------------------|
| Rated speed (100 K) | 3000 rpm |
| Number of poles | 8 |
| Rated torque (100 K) | 14.0 Nm |
| Rated current | 12.0 A |
| Static torque (60 K) | 30.00 Nm |
| Static torque (100 K) | 36.0 Nm |
| Stall current (60 K) | 22.80 A |
| Stall current (100 K) | 27.50 A |
| Moment of inertia | 118.000 kgcm ² |
| Efficiency | 93.0 % |

Physical constants

| | |
|-----------------------------|-------------------------------|
| Torque constant | 1.35 Nm/A |
| Voltage constant at 20° C | 86.0 V/1000*min ⁻¹ |
| Winding resistance at 20° C | 0.09 Ω |
| Rotating field inductance | 2.0 mH |
| Electrical time constant | 22.20 ms |
| Mechanical time constant | 1.55 ms |
| Thermal time constant | 65 min |
| Shaft torsional stiffness | 149000 Nm/rad |
| Net weight of the motor | 32.0 kg |

Mechanical data

| | |
|--------------------------|--|
| Motor type | Permanent-magnet synchronous motor |
| Motor type | Compact |
| Shaft height | 100 |
| Cooling | Natural cooling |
| Radial runout tolerance | 0.050 mm |
| Concentricity tolerance | 0.10 mm |
| Axial runout tolerance | 0.10 mm |
| Vibration severity grade | Grade A |
| Connector size | 1.5 |
| Degree of protection | IP64 |
| Design acc. to Code I | IM B5 (IM V1, IM V3) |
| Temperature monitoring | KTY84 temperature sensor in the stator winding |
| Electrical connectors | Connectors for signals and power rotatable |
| Color of the housing | without |
| Holding brake | with holding brake |
| Shaft extension | Feather key |
| Encoder system | Encoder IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits |

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Figure similar

Optimum operating point

| | |
|---------------|----------|
| Optimum speed | 2500 rpm |
| Optimum power | 5.4 kW |

Limiting data

| | |
|-----------------------------------|----------|
| Max. permissible speed (mech.) | 5000 rpm |
| Max. permissible speed (inverter) | 6700 rpm |
| Maximum torque | 108.0 Nm |
| Maximum current | 84.0 A |

Holding brake

| | |
|-----------------------|------------------------|
| Holding brake version | Permanent-magnet brake |
| Holding torque | 43.0 Nm |
| Power supply voltage | DC 24 V \pm 10 % |
| Coil current | 1.0 A |
| Opening time | 300 ms |
| Closing time | 70 ms |
| Highest braking work | 3380 J |

Recommended Motor Module

| | |
|--------------------------|----------|
| Rated inverter current | 30 A |
| Maximum inverter current | 56 A |
| Maximum torque | 73.00 Nm |