

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7083-5AH71-1SH0

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) | 4500 rpm |
| Number of poles | 8 |
| Rated torque (100 K) | 3.0 Nm |
| Rated current | 3.6 A |
| Static torque (60 K) | 13.30 Nm |
| Static torque (100 K) | 16.0 Nm |
| Stall current (60 K) | 12.40 A |
| Stall current (100 K) | 15.00 A |
| Moment of inertia | 35.900 kgcm ² |
| Efficiency | 93.0 % |

| Physical constants | |
|-----------------------------|-------------------------------|
| Torque constant | 1.05 Nm/A |
| Voltage constant at 20° C | 67.0 V/1000*min ⁻¹ |
| Winding resistance at 20° C | 0.17 Ω |
| Rotating field inductance | 2.9 mH |
| Electrical time constant | 17.00 ms |
| Mechanical time constant | 1.26 ms |
| Thermal time constant | 50 min |
| Shaft torsional stiffness | 105000 Nm/rad |
| Net weight of the motor | 16.5 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 | 0.10 mm |
| Axial runout tolerance | 0.10 mm |
| Vibration severity grade | Grade A |
| Connector size | 1 |
| 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 | Plain shaft |
| Encoder system | Multi-pole resolver (number of pole pairs corresponds to number of pole pairs of the motor) |

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Figure similar

Optimum operating point

| | |
|---------------|----------|
| Optimum speed | 3000 rpm |
| Optimum power | 3.3 kW |

Limiting data

| | |
|-----------------------------------|----------|
| Max. permissible speed (mech.) | 6000 rpm |
| Max. permissible speed (inverter) | 8600 rpm |
| Maximum torque | 50.0 Nm |
| Maximum current | 52.0 A |

Holding brake

| | |
|-----------------------|------------------------|
| Holding brake version | Permanent-magnet brake |
| Holding torque | 22.0 Nm |
| Power supply voltage | DC 24 V \pm 10 % |
| Coil current | 0.9 A |
| Opening time | 200 ms |
| Closing time | 60 ms |
| Highest braking work | 1400 J |

Recommended Motor Module

| | |
|--------------------------|----------|
| Rated inverter current | 18 A |
| Maximum inverter current | 36 A |
| Maximum torque | 37.70 Nm |