

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7042-2AK71-1RG0-Z
N05

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

| Engineering data | | Mechanical data | | | |
|---|-------------------------|-----------------------------|------------------------------------|------------------------|---|
| Rated speed (100 K) | 6000 rpm | Motor type | Permanent-magnet synchronous motor | | |
| Number of poles | 8 | Motor type | Compact | | |
| Rated torque (100 K) | 1.5 Nm | Shaft height | 48 | | |
| Rated current | 2.5 A | Cooling | Natural cooling | | |
| Static torque (60 K) | 2.50 Nm | Radial runout tolerance | 0.040 mm | | |
| Static torque (100 K) | 3.00 Nm | Concentricity tolerance | 0.08 mm | | |
| Stall current (60 K) | 3.55 A | Axial runout tolerance | 0.08 mm | | |
| Stall current (100 K) | 4.40 A | Vibration severity grade | Grade A | | |
| Moment of inertia | 2.900 kgcm ² | Connector size | 1 | | |
| Efficiency | 89.0 % | Degree of protection | IP64 | | |
| <th colspan="2">Physical constants</th> | | Physical constants | | Design acc. to Code I | IM B5 (IM V1, IM V3) |
| | | Torque constant | 0.68 Nm/A | Temperature monitoring | Pt1000 temperature sensor |
| | | Voltage constant at 20° C | 44.5 V/1000*min ⁻¹ | Electrical connectors | Connectors for signals and power rotatable |
| | | Winding resistance at 20° C | 1.15 Ω | Color of the housing | Standard (Anthracite RAL 7016) |
| | | Rotating field inductance | 8.6 mH | Holding brake | without holding brake |
| | | Electrical time constant | 7.50 ms | Shaft end | Plain shaft |
| | | Mechanical time constant | 2.15 ms | Encoder system | Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |
| | | Thermal time constant | 30 min | | |
| | | Shaft torsional stiffness | 15500 Nm/rad | | |
| | | Net weight of the motor | 4.6 kg | | |



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Optimum operating point

| | |
|---------------|----------|
| Optimum speed | 5000 rpm |
| Optimum power | 1.0 kW |

Limiting data

| | |
|-----------------------------------|----------|
| Max. permissible speed (mech.) | 9000 rpm |
| Max. permissible speed (inverter) | 9000 rpm |
| Maximum torque | 10.5 Nm |
| Maximum current | 15.3 A |

Recommended Motor Module

| | |
|--------------------------|----------|
| Rated inverter current | 5 A |
| Maximum inverter current | 15 A |
| Maximum torque | 10.30 Nm |

Special design

N05 Non-standard shaft end (dimensions as for 1FT5 motors)