

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7042-2AK71-1PA1

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) | 3.0 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 | IP65 |
| 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 extension | Feather key |
| Mechanical time constant | 2.15 ms | Encoder system | Resolver R14DQ: resolver 14 bits (resolution 16384, internal 2-pole) |
| 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 | | Recommended Motor Module | |
|-----------------------------------|----------|--------------------------|----------|
| Optimum speed | 5000 rpm | Rated inverter current | 5 A |
| Optimum power | 1.0 kW | Maximum inverter current | 15 A |
| Limiting data | | Maximum torque | 10.30 Nm |
| Max. permissible speed (mech.) | 9000 rpm | | |
| Max. permissible speed (inverter) | 9000 rpm | | |
| Maximum torque | 10.5 Nm | | |
| Maximum current | 15.3 A | | |