

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7100-2AF71-1RA0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

| Engineering data | | Mechanical data | |
|-----------------------------|--------------------------------|--------------------------|---|
| Rated speed (100 K) | 3000 rpm | Motor type | Permanent-magnet synchronous motor |
| Number of poles | 8 | Motor type | Compact |
| Rated torque (100 K) | 12.0 Nm | Shaft height | 100 |
| Rated current | 8.0 A | Cooling | Natural cooling |
| Static torque (60 K) | 14.90 Nm | Radial runout tolerance | 0.050 mm |
| Static torque (100 K) | 18.0 Nm | Concentricity tolerance | 0.10 mm |
| Stall current (60 K) | 9.00 A | Axial runout tolerance | 0.10 mm |
| Stall current (100 K) | 11.10 A | Vibration severity grade | Grade A |
| Moment of inertia | 54.000 kgcm ² | Connector size | 1 |
| Efficiency | 92.0 % | Degree of protection | IP64 |
| Physical constants | | Design acc. to Code I | IM B5 (IM V1, IM V3) |
| Torque constant | 1.62 Nm/A | Temperature monitoring | Pt1000 temperature sensor |
| Voltage constant at 20° C | 104.5 V/1000*min ⁻¹ | Electrical connectors | Connectors for signals and power rotatable |
| Winding resistance at 20° C | 0.32 Ω | Color of the housing | Standard (Anthracite RAL 7016) |
| Rotating field inductance | 7.3 mH | Holding brake | without holding brake |
| Electrical time constant | 22.50 ms | Shaft extension | Feather key |
| Mechanical time constant | 2.00 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 | 55 min | | |
| Shaft torsional stiffness | 183000 Nm/rad | | |
| Net weight of the motor | 17.6 kg | | |



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Optimum operating point

Optimum speed 3000 rpm

Optimum power 3.8 kW

Limiting data

Max. permissible speed (mech.) 5000 rpm

Max. permissible speed (inverter) 5000 rpm

Maximum torque 55.0 Nm

Maximum current 37.0 A

Recommended Motor Module

Rated inverter current 18 A

Maximum inverter current 54 A

Maximum torque 55.00 Nm