

Data sheet for SIMOTICS S-1FK7



Figure similar

Article No. : **1FK7042-2AK71-1FG1-Z**
X01

Client order no. :
Order no. :
Offer no. :
Remarks :

Item no. :
Consignment no. :
Project :

Engineering data

| | |
|-----------------------|-------------------------|
| Rated speed (100 K) | 6,000 rpm |
| Number of poles | 8 |
| Rated torque (100 K) | 1.5 Nm |
| Rated current | 2.5 A |
| Static torque (60 K) | 2.50 Nm |
| Static torque (100 K) | 3.00 Nm |
| Stall current (60 K) | 3.55 A |
| Stall current (100 K) | 4.40 A |
| Moment of inertia | 2.900 kgcm ² |
| Efficiency | 89.0 % |

Physical constants

| | |
|-----------------------------|-------------------------------|
| Torque constant | 0.68 Nm/A |
| Voltage constant at 20° C | 44.5 V/1000*min ⁻¹ |
| Winding resistance at 20° C | 1.15 Ω |
| Rotating field inductance | 8.6 mH |
| Electrical time constant | 7.50 ms |
| Mechanical time constant | 2.15 ms |
| Thermal time constant | 30 min |
| Shaft torsional stiffness | 15,500 Nm/rad |
| Net weight of the motor | 4.6 kg |

Mechanical data

| | |
|--------------------------|---|
| Motor type | Permanent-magnet synchronous motor |
| Motor type | Compact |
| Shaft height | 48 |
| Cooling | Natural cooling |
| Radial runout tolerance | 0.040 mm |
| Concentricity tolerance | 0.08 mm |
| Axial runout tolerance | 0.08 mm |
| Vibration severity grade | Grade A |
| Connector size | 1 |
| Degree of protection | IP65 |
| Design acc. to Code I | IM B5 (IM V1, IM V3) |
| Temperature monitoring | Pt1000 temperature sensor |
| Electrical connectors | Connectors for signals and power rotatable |
| Color of the housing | Jet black, matt RAL 9005 |
| Holding brake | without holding brake |
| Shaft end | Plain shaft |
| Encoder system | Encoder AM22DQ: absolute encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |

Optimum operating point

| | |
|---------------|-----------|
| Optimum speed | 5,000 rpm |
| Optimum power | 1.0 kW |

Limiting data

| | |
|-----------------------------------|-----------|
| Max. permissible speed (mech.) | 9,000 rpm |
| Max. permissible speed (inverter) | 9,000 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

X01 Paint finish: Jet black, matt RAL 9005

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1FK7042-2AK71-1FG1-ZX01

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