

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7043-4CF21-1CH0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Engineering data

| | |
|-----------------------|-------------------------|
| Rated speed (100 K) | 3000 rpm |
| Number of poles | 6 |
| Rated torque (100 K) | 3.0 Nm |
| Rated current | 3.7 A |
| Static torque (60 K) | 2.90 Nm |
| Static torque (100 K) | 3.3 Nm |
| Stall current (60 K) | 3.30 A |
| Stall current (100 K) | 3.90 A |
| Moment of inertia | 1.360 kgcm ² |
| Efficiency | 88.0 % |

Physical constants

| | |
|-----------------------------|-------------------------------|
| Torque constant | 0.84 Nm/A |
| Voltage constant at 20° C | 54.0 V/1000*min ⁻¹ |
| Winding resistance at 20° C | 1.20 Ω |
| Rotating field inductance | 13.6 mH |
| Electrical time constant | 11.30 ms |
| Mechanical time constant | 0.50 ms |
| Thermal time constant | 40 min |
| Shaft torsional stiffness | 9000 Nm/rad |
| Net weight of the motor | 6.6 kg |

Mechanical data

| | |
|--------------------------|---|
| Motor type | Permanent-magnet synchronous motor |
| Motor type | High Dynamic |
| 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 | IP64 |
| 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 | Standard (Anthracite RAL 7016) |
| Holding brake | with holding brake |
| Shaft extension | Plain shaft |
| Encoder system | Encoder AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |



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Optimum operating point

| | |
|---------------|----------|
| Optimum speed | 3000 rpm |
| Optimum power | 0.9 kW |

Limiting data

| | |
|-----------------------------------|----------|
| Max. permissible speed (mech.) | 9000 rpm |
| Max. permissible speed (inverter) | 5350 rpm |
| Maximum torque | 10.0 Nm |
| Maximum current | 12.5 A |

Holding brake

| | |
|-----------------------|------------------------|
| Holding brake version | Permanent-magnet brake |
| Holding torque | 4.0 Nm |
| Power supply voltage | DC 24 V \pm 10 % |
| Coil current | 0.5 A |
| Opening time | 70 ms |
| Closing time | 30 ms |
| Highest braking work | 150 J |

Recommended Motor Module

| | |
|--------------------------|---------|
| Rated inverter current | 4 A |
| Maximum inverter current | 8 A |
| Maximum torque | 6.60 Nm |