

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7084-2AF71-1QH0-Z
N05



Figure similar

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) | 10.0 Nm | Shaft height | 80 |
| Rated current | 6.5 A | Cooling | Natural cooling |
| Static torque (60 K) | 16.60 Nm | Radial runout tolerance | 0.050 mm |
| Static torque (100 K) | 20.00 Nm | Concentricity tolerance | 0.10 mm |
| Stall current (60 K) | 9.80 A | Axial runout tolerance | 0.10 mm |
| Stall current (100 K) | 12.10 A | Vibration severity grade | Grade A |
| Moment of inertia | 35.500 kgcm ² | Connector size | 1 |
| Efficiency | 93.0 % | Degree of protection | IP64 |
| Physical constants | | Design acc. to Code I | IM B5 (IM V1, IM V3) |
| Torque constant | 1.66 Nm/A | Temperature monitoring | Pt1000 temperature sensor |
| Voltage constant at 20° C | 106.5 V/1000*min ⁻¹ | Electrical connectors | Connectors for signals and power rotatable |
| Winding resistance at 20° C | 0.28 Ω | Color of the housing | Standard (Anthracite RAL 7016) |
| Rotating field inductance | 5.9 mH | Holding brake | with holding brake |
| Electrical time constant | 21.00 ms | Shaft end | Plain shaft |
| Mechanical time constant | 1.01 ms | Encoder system | Encoder AS20DQI: absolute encoder single-turn 20 bits |
| Thermal time constant | 55 min | | |
| Shaft torsional stiffness | 68000 Nm/rad | | |
| Net weight of the motor | 21.5 kg | | |



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Optimum operating point

| | |
|---------------|----------|
| Optimum speed | 2500 rpm |
| Optimum power | 3.2 kW |

Limiting data

| | |
|-----------------------------------|----------|
| Max. permissible speed (mech.) | 6000 rpm |
| Max. permissible speed (inverter) | 5400 rpm |
| Maximum torque | 61.0 Nm |
| Maximum current | 41.0 A |

Holding brake

| | |
|-----------------------|------------------------|
| Holding brake version | Permanent-magnet brake |
| Holding torque | 22.0 Nm |
| Power supply voltage | DC 24 V \pm 10 % |
| Coil current | 0.9 A |
| Opening time | 200 ms |
| Closing time | 60 ms |
| Highest braking work | 1400 J |

Recommended Motor Module

| | |
|--------------------------|----------|
| Rated inverter current | 18 A |
| Maximum inverter current | 54 A |
| Maximum torque | 61.00 Nm |

Special design

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