

## Data sheet for SIMOTICS S-1FK7

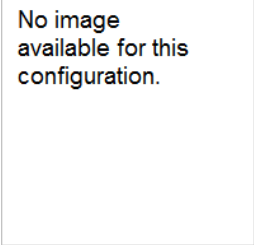


Figure similar

MLFB-Ordering data

1FK7044-7AH71-1GG3

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

| Engineering data      |                         |
|-----------------------|-------------------------|
| Rated speed (100 K)   | 4500 rpm                |
| Number of poles       | 6                       |
| Rated torque (100 K)  | 3.0 Nm                  |
| Rated current         | 4.9 A                   |
| Static torque (60 K)  | 3.00 Nm                 |
| Static torque (100 K) | 4.0 Nm                  |
| Stall current (60 K)  | 4.60 A                  |
| Stall current (100 K) | 6.30 A                  |
| Moment of inertia     | 1.280 kgcm <sup>2</sup> |
| Efficiency            | 91.0 %                  |

| Physical constants          |                               |
|-----------------------------|-------------------------------|
| Torque constant             | 0.63 Nm/A                     |
| Voltage constant at 20° C   | 42.0 V/1000*min <sup>-1</sup> |
| Winding resistance at 20° C | 0.81 Ω                        |
| Rotating field inductance   | 11.0 mH                       |
| Electrical time constant    | 13.50 ms                      |
| Mechanical time constant    | 0.78 ms                       |
| Thermal time constant       | 45 min                        |
| Shaft torsional stiffness   | 9500 Nm/rad                   |
| Net weight of the motor     | 7.7 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   | KTY84 temperature sensor in the stator winding  |
| Electrical connectors    | Connectors for signals and power rotatable  |
| Color of the housing     | Standard (Anthracite RAL 7016)  |
| Holding brake            | without holding brake   |
| Shaft extension          | Plain shaft   |
| Encoder system           | Encoder AM32S/R: absolute encoder 32 S/R, 4096 revolutions multi-turn, with EnDat interface |

MLFB-Ordering data

1FK7044-7AH71-1GG3

Figure similar

## Optimum operating point

Optimum speed 4500 rpm

Optimum power 1.4 kW

## Limiting data

Max. permissible speed (mech.) 8000 rpm

Max. permissible speed (inverter) 13300 rpm

Maximum torque 12.0 Nm

Maximum current 20.0 A

## Recommended Motor Module

Rated inverter current 9 A

Maximum inverter current 18 A

Maximum torque 11.00 Nm