

## Data sheet for SIMOTICS S-1FK7

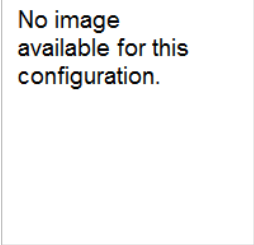


Figure similar

MLFB-Ordering data

1FK7060-5AF71-1EG5

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

### Engineering data

|                       |                         |
|-----------------------|-------------------------|
| Rated speed (100 K)   | 3000 rpm                |
| Number of poles       | 8                       |
| Rated torque (100 K)  | 4.7 Nm                  |
| Rated current         | 3.7 A                   |
| Static torque (60 K)  | 5.00 Nm                 |
| Static torque (100 K) | 6.0 Nm                  |
| Stall current (60 K)  | 3.70 A                  |
| Stall current (100 K) | 4.50 A                  |
| Moment of inertia     | 7.950 kgcm <sup>2</sup> |
| Efficiency            | 90.0 %                  |

### Physical constants

|                             |                               |
|-----------------------------|-------------------------------|
| Torque constant             | 1.33 Nm/A                     |
| Voltage constant at 20° C   | 84.5 V/1000*min <sup>-1</sup> |
| Winding resistance at 20° C | 1.44 Ω                        |
| Rotating field inductance   | 14.7 mH                       |
| Electrical time constant    | 10.20 ms                      |
| Mechanical time constant    | 1.94 ms                       |
| Thermal time constant       | 30 min                        |
| Shaft torsional stiffness   | 42000 Nm/rad                  |
| Net weight of the motor     | 7.0 kg                        |

### Mechanical data

|                          |   |
|--------------------------|---|
| Motor type               | Permanent-magnet synchronous motor  |
| Motor type               | Compact   |
| Shaft height             | 63  |
| Cooling                  | Natural cooling   |
| Radial runout tolerance  | 0.040 mm  |
| Concentricity tolerance  | 0.10 mm   |
| Axial runout tolerance   | 0.10 mm   |
| Vibration severity grade | Grade A   |
| Connector size           | 1   |
| Degree of protection     | IP65 and DE flange IP67   |
| 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 AM2048S/R: absolute encoder 2048 S/R, 4096 revolutions multi-turn, with EnDat interface |

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Figure similar

| Optimum operating point           |          | Recommended Motor Module |          |
|-----------------------------------|----------|--------------------------|----------|
| Optimum speed                     | 3000 rpm | Rated inverter current   | 5 A      |
| Optimum power                     | 1.5 kW   | Maximum inverter current | 10 A     |
| Limiting data                     |          | Maximum torque           | 13.20 Nm |
| Max. permissible speed (mech.)    | 7200 rpm |                          |          |
| Max. permissible speed (inverter) | 6800 rpm |                          |          |
| Maximum torque                    | 18.0 Nm  |                          |          |
| Maximum current                   | 15.0 A   |                          |          |