

## Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7044-7AF71-1FG3

No image available for this configuration.

Figure similar

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)  | 3.5 Nm                  |
| Rated current         | 4.0 A                   |
| Static torque (60 K)  | 3.00 Nm                 |
| Static torque (100 K) | 4.0 Nm                  |
| Stall current (60 K)  | 3.40 A                  |
| Stall current (100 K) | 4.50 A                  |
| Moment of inertia     | 1.280 kgcm <sup>2</sup> |
| Efficiency            | 91.0 %                  |

### Physical constants

|                             |                               |
|-----------------------------|-------------------------------|
| Torque constant             | 0.86 Nm/A                     |
| Voltage constant at 20° C   | 57.0 V/1000*min <sup>-1</sup> |
| Winding resistance at 20° C | 1.50 Ω                        |
| Rotating field inductance   | 20.0 mH                       |
| Electrical time constant    | 13.30 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 AM22DQ: absolute encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |

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Figure similar

| Optimum operating point           |           | Recommended Motor Module |         |
|-----------------------------------|-----------|--------------------------|---------|
| Optimum speed                     | 3000 rpm  | Rated inverter current   | 5 A     |
| Optimum power                     | 1.1 kW    | Maximum inverter current | 10 A    |
| Limiting data                     |           | Maximum torque           | 8.80 Nm |
| Max. permissible speed (mech.)    | 8000 rpm  |                          |         |
| Max. permissible speed (inverter) | 10100 rpm |                          |         |
| Maximum torque                    | 12.0 Nm   |                          |         |
| Maximum current                   | 14.8 A    |                          |         |