

## Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7085-4CC71-1TG2



Figure similar

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

### Engineering data

|                       |                          |
|-----------------------|--------------------------|
| Rated speed (100 K)   | 2000 rpm                 |
| Number of poles       | 8                        |
| Rated torque (100 K)  | 15.0 Nm                  |
| Rated current         | 10.0 A                   |
| Static torque (60 K)  | 18.30 Nm                 |
| Static torque (100 K) | 22.0 Nm                  |
| Stall current (60 K)  | 10.90 A                  |
| Stall current (100 K) | 13.50 A                  |
| Moment of inertia     | 22.000 kgcm <sup>2</sup> |
| Efficiency            | 92.0 %                   |

### Physical constants

|                             |                                |
|-----------------------------|--------------------------------|
| Torque constant             | 1.63 Nm/A                      |
| Voltage constant at 20° C   | 105.0 V/1000*min <sup>-1</sup> |
| Winding resistance at 20° C | 0.31 Ω                         |
| Rotating field inductance   | 9.8 mH                         |
| Electrical time constant    | 31.50 ms                       |
| Mechanical time constant    | 0.77 ms                        |
| Thermal time constant       | 45 min                         |
| Shaft torsional stiffness   | 84000 Nm/rad                   |
| Net weight of the motor     | 23.0 kg                        |

### Mechanical data

|                          |  |
|--------------------------|--|
| Motor type               | Permanent-magnet synchronous motor             |
| Motor type               | High Dynamic                                   |
| Shaft height             | 80   |
| Cooling                  | Natural cooling                                |
| Radial runout tolerance  | 0.050 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           | Resolver 2-pole                                |



Figure similar

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1FK7085-4CC71-1TG2

| Optimum operating point           |          | Recommended Motor Module |          |
|-----------------------------------|----------|--------------------------|----------|
| Optimum speed                     | 2000 rpm | Rated inverter current   | 18 A     |
| Optimum power                     | 3.1 kW   | Maximum inverter current | 54 A     |
| Limiting data                     |          | Maximum torque           | 65.00 Nm |
| Max. permissible speed (mech.)    | 6000 rpm |                          |          |
| Max. permissible speed (inverter) | 5500 rpm |                          |          |
| Maximum torque                    | 65.0 Nm  |                          |          |
| Maximum current                   | 51.0 A   |                          |          |