

## Data sheet for SIMOTICS S-1FK7



Figure similar

### Ordering data

1FK7042-2AF71-1EH0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

| Engineering data        |                         | Physical constants          |                               |
|-------------------------|-------------------------|-----------------------------|-------------------------------|
| Rated speed             | 3000 rpm                | Torque constant             | 1.38 Nm/A                     |
| Number of poles         | 8                       | Voltage constant at 20° C   | 90.0 V/1000*min <sup>-1</sup> |
| Rated torque (100 K)    | 2.6 Nm                  | Winding resistance at 20° C | 4.67 Ω                        |
| Rated current           | 1.9 A                   | Rotating field inductance   | 35.0 mH                       |
| Static torque (60 K)    | 2.50 Nm                 | Electrical time constant    | 7.50 ms                       |
| Static torque (100 K)   | 3.0 Nm                  | Mechanical time constant    | 2.15 ms                       |
| Stall current (60 K)    | 1.8 A                   | Thermal time constant       | 30 min                        |
| Stall current (100 K)   | 2.2 A                   | Shaft torsional stiffness   | 15500 Nm/rad                  |
| Rotor moment of inertia | 3.200 kgcm <sup>2</sup> | Net weight of the motor     | 5.3 kg                        |
| Efficiency              | 89.0 %                  |                             |                               |

| Mechanical data          |                                                |                       |                                                                                                 |
|--------------------------|------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------|
| Motor type               | Compact                                        | Electrical connectors | Connectors for signals and power rotatable                                                      |
| Shaft height             | 48                                             | Color of the housing  | Standard painting (Anthracite RAL 7016)                                                         |
| Cooling                  | Natural cooling                                | Holding brake         | with holding brake                                                                              |
| Radial runout tolerance  | 0.040 mm                                       | Shaft extension       | Plain shaft                                                                                     |
| Concentricity tolerance  | 0.08 mm                                        | Encoder system        | Encoder AM2048S/R: absolute encoder 2048 S/R, 4096 revolutions multi-turn, with EnDat interface |
| 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 |                       |                                                                                                 |



Figure similar

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| Optimum operating point |          | Recommended Motor Module |         |
|-------------------------|----------|--------------------------|---------|
| Optimum speed           | 3000 rpm | Rated inverter current   | 3 A     |
| Optimum power           | 0.8 kW   | Maximum inverter current | 6 A     |
|                         |          | Maximum torque           | 8.20 Nm |