

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7064-4CH71-1RG0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

| Engineering data                        |                         | Mechanical data             |                                    |                        |   |
|---|-------------------------|-----------------------------|------------------------------------|------------------------|---|
| Rated speed (100 K)                     | 4500 rpm                | Motor type                  | Permanent-magnet synchronous motor |                        |   |
| Number of poles                         | 6                       | Motor type                  | High Dynamic                       |                        |   |
| Rated torque (100 K)                    | 5.0 Nm                  | Shaft height                | 63                                 |                        |   |
| Rated current                           | 7.0 A                   | Cooling                     | Natural cooling                    |                        |   |
| Static torque (60 K)                    | 10.00 Nm                | Radial runout tolerance     | 0.040 mm                           |                        |   |
| Static torque (100 K)                   | 12.0 Nm                 | Concentricity tolerance     | 0.10 mm                            |                        |   |
| Stall current (60 K)                    | 12.20 A                 | Axial runout tolerance      | 0.10 mm                            |                        |   |
| Stall current (100 K)                   | 15.00 A                 | Vibration severity grade    | Grade A                            |                        |   |
| Moment of inertia                       | 7.500 kgcm <sup>2</sup> | Connector size              | 1                                  |                        |   |
| Efficiency                              | 93.0 %                  | Degree of protection        | IP64                               |                        |   |
| <th colspan="2">Physical constants</th> |                         | Physical constants          |                                    | Design acc. to Code I  | IM B5 (IM V1, IM V3)  |
|   |                         | Torque constant             | 0.80 Nm/A                          | Temperature monitoring | Pt1000 temperature sensor   |
|   |                         | Voltage constant at 20° C   | 50.5 V/1000*min <sup>-1</sup>      | Electrical connectors  | Connectors for signals and power rotatable  |
|   |                         | Winding resistance at 20° C | 0.17 Ω                             | Color of the housing   | Standard (Anthracite RAL 7016)  |
|   |                         | Rotating field inductance   | 6.2 mH                             | Holding brake          | without holding brake   |
|   |                         | Electrical time constant    | 36.50 ms                           | Shaft extension        | Plain shaft   |
|   |                         | Mechanical time constant    | 0.60 ms                            | Encoder system         | Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |
|   |                         | Thermal time constant       | 55 min                             |                        |   |
|   |                         | Shaft torsional stiffness   | 29500 Nm/rad                       |                        |   |
|   |                         | Net weight of the motor     | 15.4 kg                            |                        |   |



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| Optimum operating point           |          | Recommended Motor Module |          |
|-----------------------------------|----------|--------------------------|----------|
| Optimum speed                     | 3500 rpm | Rated inverter current   | 18 A     |
| Optimum power                     | 2.8 kW   | Maximum inverter current | 54 A     |
| Limiting data                     |          | Maximum torque           | 32.00 Nm |
| Max. permissible speed (mech.)    | 7500 rpm |                          |          |
| Max. permissible speed (inverter) | 7500 rpm |                          |          |
| Maximum torque                    | 32.0 Nm  |                          |          |
| Maximum current                   | 46.0 A   |                          |          |