

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7064-4CH71-1PH2

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         | 8.500 kgcm <sup>2</sup> | Connector size              | 1                                  |                        |  |
| Efficiency                | 93.0 %                  | Degree of protection        | IP65 and DE flange IP67            |                        |  |
| <b>Physical constants</b> |                         | 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          | with holding brake   |
|                           |                         | Electrical time constant    | 36.50 ms                           | Shaft extension        | Plain shaft  |
|                           |                         | Mechanical time constant    | 0.60 ms                            | Encoder system         | Resolver R14DQ: resolver 14 bits (resolution 16384, internal 2-pole) |
|                           |                         | Thermal time constant       | 55 min                             |                        |  |
|                           |                         | Shaft torsional stiffness   | 22500 Nm/rad                       |                        |  |
|                           |                         | Net weight of the motor     | 16.8 kg                            |                        |  |



Figure similar

MLFB-Ordering data

1FK7064-4CH71-1PH2

### Optimum operating point

|               |          |
|---------------|----------|
| Optimum speed | 3500 rpm |
| Optimum power | 2.8 kW   |

### Limiting data

|                                   |          |
|-----------------------------------|----------|
| Max. permissible speed (mech.)    | 7500 rpm |
| Max. permissible speed (inverter) | 7500 rpm |
| Maximum torque                    | 32.0 Nm  |
| Maximum current                   | 46.0 A   |

### Holding brake

|                       |                        |
|-----------------------|------------------------|
| Holding brake version | Permanent-magnet brake |
| Holding torque        | 13.0 Nm                |
| Power supply voltage  | DC 24 V $\pm$ 10 %     |
| Coil current          | 0.8 A                  |
| Opening time          | 100 ms                 |
| Closing time          | 50 ms                  |
| Highest braking work  | 380 J                  |

### Recommended Motor Module

|                          |          |
|--------------------------|----------|
| Rated inverter current   | 18 A     |
| Maximum inverter current | 54 A     |
| Maximum torque           | 32.00 Nm |