

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7081-2AH74-1TG1

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                         | 8                        | Motor type                  | Compact                            |                        |  |
| Rated torque (100 K)                    | 3.8 Nm                   | Shaft height                | 80                                 |                        |  |
| Rated current                           | 4.9 A                    | Cooling                     | Natural cooling                    |                        |  |
| Static torque (60 K)                    | 10.00 Nm                 | Radial runout tolerance     | 0.050 mm                           |                        |  |
| Static torque (100 K)                   | 12.0 Nm                  | Concentricity tolerance     | 0.10 mm                            |                        |  |
| Stall current (60 K)                    | 10.60 A                  | Axial runout tolerance      | 0.10 mm                            |                        |  |
| Stall current (100 K)                   | 13.10 A                  | Vibration severity grade    | Grade A                            |                        |  |
| Moment of inertia                       | 20.000 kgcm <sup>2</sup> | Connector size              | 1                                  |                        |  |
| Efficiency                              | 93.0 %                   | Degree of protection        | IP65                               |                        |  |
| <th colspan="2">Physical constants</th> |                          | Physical constants          |                                    | Design acc. to Code I  | IM B5 (IM V1, IM V3)                       |
|   |                          | Torque constant             | 0.92 Nm/A                          | Temperature monitoring | Pt1000 temperature sensor                  |
|   |                          | Voltage constant at 20° C   | 59.0 V/1000*min <sup>-1</sup>      | Electrical connectors  | Connectors for signals and power rotatable |
|   |                          | Winding resistance at 20° C | 0.19 Ω                             | Color of the housing   | Standard (Anthracite RAL 7016)             |
|   |                          | Rotating field inductance   | 3.4 mH                             | Holding brake          | without holding brake                      |
|   |                          | Electrical time constant    | 17.90 ms                           | Shaft extension        | Plain shaft                                |
|   |                          | Mechanical time constant    | 1.36 ms                            | Encoder system         | Resolver 2-pole                            |
|   |                          | Thermal time constant       | 45 min                             |                        |  |
|   |                          | Shaft torsional stiffness   | 109000 Nm/rad                      |                        |  |
|   |                          | Net weight of the motor     | 12.9 kg                            |                        |  |



Figure similar

MLFB-Ordering data

1FK7081-2AH74-1TG1

| Optimum operating point           |          | Recommended Motor Module |          |
|-----------------------------------|----------|--------------------------|----------|
| Optimum speed                     | 3000 rpm | Rated inverter current   | 18 A     |
| Optimum power                     | 2.8 kW   | Maximum inverter current | 54 A     |
| Limiting data                     |          | Maximum torque           | 37.00 Nm |
| Max. permissible speed (mech.)    | 6000 rpm |                          |          |
| Max. permissible speed (inverter) | 6000 rpm |                          |          |
| Maximum torque                    | 37.0 Nm  |                          |          |
| Maximum current                   | 45.0 A   |                          |          |