

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data 1FK7061-4CH71-1BB0

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)        | 4.3 Nm                        | Shaft height             | 63                                                    |
| Rated current               | 6.2 A                         | Cooling                  | Natural cooling                                       |
| Static torque (60 K)        | 5.30 Nm                       | Radial runout tolerance  | 0.040 mm                                              |
| Static torque (100 K)       | 6.4 Nm                        | Concentricity tolerance  | 0.10 mm                                               |
| Stall current (60 K)        | 7.10 A                        | Axial runout tolerance   | 0.10 mm                                               |
| Stall current (100 K)       | 8.70 A                        | Vibration severity grade | Grade A                                               |
| Moment of inertia           | 5.100 kgcm²                   | Connector size           | 1                                                     |
| Efficiency                  | 93.0 %                        | Degree of protection     | IP64                                                  |
| Physical constants          |                               | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                  |
| Torque constant             | 0.73 Nm/A                     | Temperature monitoring   | Pt1000 temperature sensor                             |
| Voltage constant at 20° C   | 47.0 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable            |
| Winding resistance at 20° C | 0.35 Ω                        | Color of the housing     | Standard (Anthracite RAL 7016)                        |
| Rotating field inductance   | 10.7 mH                       | Holding brake            | with holding brake                                    |
| Electrical time constant    | 30.50 ms                      | Shaft extension          | Feather key                                           |
| Mechanical time constant    | 0.79 ms                       | Encoder system           | Encoder AS24DQI: absolute encoder single-turn 24 bits |
| Thermal time constant       | 45 min                        |                          |                                                       |
| Shaft torsional stiffness   | 26500 Nm/rad                  |                          |                                                       |
| Net weight of the motor     | 11.0 kg                       |                          |                                                       |



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| Optimum operating point           |                        | Recommended Motor Module |          |
|-----------------------------------|------------------------|--------------------------|----------|
| Optimum speed                     | 4500 rpm               | Rated inverter current   | 9 A      |
| Optimum power                     | 2.0 kW                 | Maximum inverter current | 27 A     |
| Limiting data                     |                        | Maximum torque           | 17.30 Nm |
| Max. permissible speed (mech.)    | 7500 rpm               |                          |          |
| Max. permissible speed (inverter) | 7500 rpm               |                          |          |
| Maximum torque                    | 17.3 Nm                |                          |          |
| Maximum current                   | 26.5 A                 |                          |          |
| Holding brake                     |                        |                          |          |
| Holding brake version             | Permanent-magnet brake |                          |          |
| Holding torque                    | 13.0 Nm                |                          |          |
| Power supply voltage              | DC 24 V ± 10 %         |                          |          |
| Coil current                      | 0.8 A                  |                          |          |
| Opening time                      | 100 ms                 |                          |          |
| Closing time                      | 50 ms                  |                          |          |
| Highest braking work              | 380 J                  |                          |          |