

## Data sheet for SIMOTICS S-1FK7



Figure similar

Article No. : 1FK7060-2AH71-1BG2

Client order no. :  
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### Engineering data

|                       |                         |
|-----------------------|-------------------------|
| Rated speed (100 K)   | 4,500 rpm               |
| Number of poles       | 8                       |
| Rated torque (100 K)  | 3.7 Nm                  |
| Rated current         | 4.3 A                   |
| Static torque (60 K)  | 5.00 Nm                 |
| Static torque (100 K) | 6.00 Nm                 |
| Stall current (60 K)  | 5.10 A                  |
| Stall current (100 K) | 6.30 A                  |
| Moment of inertia     | 7.700 kgcm <sup>2</sup> |
| Efficiency            | 90.0 %                  |

### Physical constants

|                             |                               |
|-----------------------------|-------------------------------|
| Torque constant             | 0.95 Nm/A                     |
| Voltage constant at 20° C   | 60.5 V/1000*min <sup>-1</sup> |
| Winding resistance at 20° C | 0.69 Ω                        |
| Rotating field inductance   | 7.6 mH                        |
| Electrical time constant    | 10.90 ms                      |
| Mechanical time constant    | 1.78 ms                       |
| Thermal time constant       | 30 min                        |
| Shaft torsional stiffness   | 40,500 Nm/rad                 |
| Net weight of the motor     | 7.1 kg                        |

### Mechanical data

|                          |   |
|--------------------------|---|
| Motor type               | Permanent-magnet synchronous motor                    |
| Motor type               | Compact   |
| Shaft height             | 63  |
| Cooling                  | Natural cooling                                       |
| Radial runout tolerance  | 0.040 mm  |
| Concentricity tolerance  | 0.10 mm   |
| Axial runout tolerance   | 0.10 mm   |
| Vibration severity grade | Grade A   |
| Connector size           | 1   |
| Degree of protection     | IP65 and DE flange IP67                               |
| Design acc. to Code I    | IM B5 (IM V1, IM V3)                                  |
| Temperature monitoring   | Pt1000 temperature sensor                             |
| Electrical connectors    | Connectors for signals and power rotatable            |
| Color of the housing     | Standard (Anthracite RAL 7016)                        |
| Holding brake            | without holding brake                                 |
| Shaft end                | Plain shaft   |
| Encoder system           | Encoder AS24DQI: absolute encoder single-turn 24 bits |

### Optimum operating point

|               |           |
|---------------|-----------|
| Optimum speed | 4,500 rpm |
| Optimum power | 1.7 kW    |

### Limiting data

|                                   |           |
|-----------------------------------|-----------|
| Max. permissible speed (mech.)    | 7,200 rpm |
| Max. permissible speed (inverter) | 7,200 rpm |
| Maximum torque                    | 18.0 Nm   |
| Maximum current                   | 21.5 A    |

### Recommended Motor Module

|                          |          |
|--------------------------|----------|
| Rated inverter current   | 9 A      |
| Maximum inverter current | 27 A     |
| Maximum torque           | 18.00 Nm |

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