

## Data sheet for SIMOTICS S-1FK7



Figure similar

Article No. : 1FK7034-2AF21-1RB1

Client order no. :  
Order no. :  
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### Engineering data

|                       |                         |
|-----------------------|-------------------------|
| Rated speed (100 K)   | 3,000 rpm               |
| Number of poles       | 6                       |
| Rated torque (100 K)  | 1.4 Nm                  |
| Rated current         | 1.8 A                   |
| Static torque (60 K)  | 1.35 Nm                 |
| Static torque (100 K) | 1.60 Nm                 |
| Stall current (60 K)  | 1.55 A                  |
| Stall current (100 K) | 1.90 A                  |
| Moment of inertia     | 1.000 kgcm <sup>2</sup> |
| Efficiency            | 85.0 %                  |

### Physical constants

|                             |                               |
|-----------------------------|-------------------------------|
| Torque constant             | 0.84 Nm/A                     |
| Voltage constant at 20° C   | 55.0 V/1000*min <sup>-1</sup> |
| Winding resistance at 20° C | 4.46 Ω                        |
| Rotating field inductance   | 17.2 mH                       |
| Electrical time constant    | 3.85 ms                       |
| Mechanical time constant    | 1.71 ms                       |
| Thermal time constant       | 30 min                        |
| Shaft torsional stiffness   | 3,750 Nm/rad                  |
| Net weight of the motor     | 3.9 kg                        |

### Mechanical data

|                          |   |
|--------------------------|---|
| Motor type               | Permanent-magnet synchronous motor  |
| Motor type               | Compact   |
| Shaft height             | 36  |
| Cooling                  | Natural cooling   |
| Radial runout tolerance  | 0.035 mm  |
| Concentricity tolerance  | 0.08 mm   |
| Axial runout tolerance   | 0.08 mm   |
| Vibration severity grade | Grade A   |
| Connector size           | 1   |
| Degree of protection     | IP65  |
| 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            | with holding brake  |
| Shaft end                | Feather key   |
| Encoder system           | Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |

### Optimum operating point

|               |           |
|---------------|-----------|
| Optimum speed | 3,000 rpm |
| Optimum power | 0.5 kW    |

### Limiting data

|                                   |            |
|-----------------------------------|------------|
| Max. permissible speed (mech.)    | 10,000 rpm |
| Max. permissible speed (inverter) | 5,200 rpm  |
| Maximum torque                    | 6.5 Nm     |
| Maximum current                   | 8.0 A      |

### Holding brake

|                       |                        |
|-----------------------|------------------------|
| Holding brake version | Permanent-magnet brake |
| Holding torque        | 1.9 Nm                 |
| Power supply voltage  | DC 24 V ± 10 %         |
| Coil current          | 0.3 A                  |
| Opening time          | 50 ms                  |
| Closing time          | 30 ms                  |
| Highest braking work  | 40 J                   |

### Recommended Motor Module

|                          |         |
|--------------------------|---------|
| Rated inverter current   | 2 A     |
| Maximum inverter current | 5 A     |
| Maximum torque           | 3.90 Nm |

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