

## Data sheet for SIMOTICS S-1FK7



Figure similar

Article No. : 1FK7062-2AF71-1CB2

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

|                       |                          |
|-----------------------|--------------------------|
| Rated speed (100 K)   | 3,000 rpm                |
| Number of poles       | 8                        |
| Rated torque (100 K)  | 6.0 Nm                   |
| Rated current         | 4.0 A                    |
| Static torque (60 K)  | 7.10 Nm                  |
| Static torque (100 K) | 8.50 Nm                  |
| Stall current (60 K)  | 4.30 A                   |
| Stall current (100 K) | 5.30 A                   |
| Moment of inertia     | 12.200 kgcm <sup>2</sup> |
| Efficiency            | 91.0 %                   |

### Physical constants

|                             |                                |
|-----------------------------|--------------------------------|
| Torque constant             | 1.60 Nm/A                      |
| Voltage constant at 20° C   | 102.5 V/1000*min <sup>-1</sup> |
| Winding resistance at 20° C | 1.15 Ω                         |
| Rotating field inductance   | 14.6 mH                        |
| Electrical time constant    | 12.80 ms                       |
| Mechanical time constant    | 1.49 ms                        |
| Thermal time constant       | 35 min                         |
| Shaft torsional stiffness   | 26,500 Nm/rad                  |
| Net weight of the motor     | 10.5 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            | with holding brake  |
| Shaft end                | Feather key   |
| Encoder system           | Encoder AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |

### Optimum operating point

|               |           |
|---------------|-----------|
| Optimum speed | 3,000 rpm |
| Optimum power | 1.9 kW    |

### Limiting data

|                                   |           |
|-----------------------------------|-----------|
| Max. permissible speed (mech.)    | 7,200 rpm |
| Max. permissible speed (inverter) | 5,600 rpm |
| Maximum torque                    | 26.0 Nm   |
| Maximum current                   | 19.2 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                  |

### Recommended Motor Module

|                          |          |
|--------------------------|----------|
| Rated inverter current   | 5 A      |
| Maximum inverter current | 15 A     |
| Maximum torque           | 22.10 Nm |

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