

## Data sheet for SIMOTICS S-1FK7



Figure similar

Article No. : 1FK7044-4CF71-1RA1

Client order no. :  
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### Engineering data

Rated speed (100 K)	3,000 rpm
Number of poles	6
Rated torque (100 K)	3.7 Nm
Rated current	3.5 A
Static torque (60 K)	3.75 Nm
Static torque (100 K)	4.50 Nm
Stall current (60 K)	3.20 A
Stall current (100 K)	4.00 A
Moment of inertia	1.260 kgcm <sup>2</sup>
Efficiency	91.0 %

### Physical constants

Torque constant	1.13 Nm/A
Voltage constant at 20° C	72.0 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	1.49 Ω
Rotating field inductance	18.8 mH
Electrical time constant	12.60 ms
Mechanical time constant	0.44 ms
Thermal time constant	45 min
Shaft torsional stiffness	9,800 Nm/rad
Net weight of the motor	7.4 kg

### Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	High Dynamic
Shaft height	48
Cooling	Natural cooling
Radial runout tolerance	0.040 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	without 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	1.2 kW

### Limiting data

Max. permissible speed (mech.)	9,000 rpm
Max. permissible speed (inverter)	8,050 rpm
Maximum torque	13.0 Nm
Maximum current	12.1 A

### Recommended Motor Module

Rated inverter current	5 A
Maximum inverter current	15 A
Maximum torque	13.00 Nm

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