

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7101-3BC71-1BH1

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Engineering data		Mechanical data			
Rated speed (100 K)	2000 rpm	Motor type	Permanent-magnet synchronous motor		
Number of poles	8	Motor type	High Inertia		
Rated torque (100 K)	20.5 Nm	Shaft height	100		
Rated current	9.7 A	Cooling	Natural cooling		
Static torque (60 K)	22.50 Nm	Radial runout tolerance	0.050 mm		
Static torque (100 K)	27.0 Nm	Concentricity tolerance	0.10 mm		
Stall current (60 K)	10.00 A	Axial runout tolerance	0.10 mm		
Stall current (100 K)	12.30 A	Vibration severity grade	Grade A		
Moment of inertia	136.000 kgcm <sup>2</sup>	Connector size	1.5		
Efficiency	93.0 %	Degree of protection	IP65		
<th colspan="2">Physical constants</th> <td>Design acc. to Code I</td> <td>IM B5 (IM V1, IM V3)</td>		Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
		Torque constant	2.15 Nm/A	Temperature monitoring	Pt1000 temperature sensor
		Voltage constant at 20° C	144.5 V/1000*min <sup>-1</sup>	Electrical connectors	Connectors for signals and power rotatable
		Winding resistance at 20° C	0.34 Ω	Color of the housing	Standard (Anthracite RAL 7016)
		Rotating field inductance	8.5 mH	Holding brake	with holding brake
		Electrical time constant	25.00 ms	Shaft extension	Plain shaft
		Mechanical time constant	2.60 ms	Encoder system	Encoder AS24DQI: absolute encoder single-turn 24 bits
		Thermal time constant	60 min		
		Shaft torsional stiffness	116000 Nm/rad		
		Net weight of the motor	30.2 kg		



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### Optimum operating point

Optimum speed	2000 rpm
Optimum power	4.3 kW

### Limiting data

Max. permissible speed (mech.)	5000 rpm
Max. permissible speed (inverter)	4000 rpm
Maximum torque	80.0 Nm
Maximum current	40.5 A

### Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	43.0 Nm
Power supply voltage	DC 24 V $\pm$ 10 %
Coil current	1.0 A
Opening time	300 ms
Closing time	70 ms
Highest braking work	3380 J

### Recommended Motor Module

Rated inverter current	18 A
Maximum inverter current	54 A
Maximum torque	80.00 Nm