

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7040-2AK71-1RB0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Engineering data		Mechanical data	
Rated speed (100 K)	6000 rpm	Motor type	Permanent-magnet synchronous motor
Number of poles	8	Motor type	Compact
Rated torque (100 K)	1.1 Nm	Shaft height	48
Rated current	1.9 A	Cooling	Natural cooling
Static torque (60 K)	1.30 Nm	Radial runout tolerance	0.040 mm
Static torque (100 K)	1.6 Nm	Concentricity tolerance	0.08 mm
Stall current (60 K)	1.90 A	Axial runout tolerance	0.08 mm
Stall current (100 K)	2.35 A	Vibration severity grade	Grade A
Moment of inertia	1.920 kgcm ²	Connector size	1
Efficiency	88.0 %	Degree of protection	IP64
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
		Temperature monitoring	Pt1000 temperature sensor
Torque constant	0.68 Nm/A	Electrical connectors	Connectors for signals and power rotatable
Voltage constant at 20° C	43.4 V/1000*min ⁻¹	Color of the housing	Standard (Anthracite RAL 7016)
Winding resistance at 20° C	2.87 Ω	Holding brake	with holding brake
Rotating field inductance	16.5 mH	Shaft extension	Feather key
Electrical time constant	5.70 ms	Encoder system	Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
Mechanical time constant	3.00 ms		
Thermal time constant	25 min		
Shaft torsional stiffness	13000 Nm/rad		
Net weight of the motor	3.9 kg		



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Optimum operating point

Optimum speed	6000 rpm
Optimum power	0.7 kW

Limiting data

Max. permissible speed (mech.)	9000 rpm
Max. permissible speed (inverter)	9000 rpm
Maximum torque	5.1 Nm
Maximum current	7.7 A

Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	4.0 Nm
Power supply voltage	DC 24 V \pm 10 %
Coil current	0.5 A
Opening time	70 ms
Closing time	30 ms
Highest braking work	150 J

Recommended Motor Module

Rated inverter current	3 A
Maximum inverter current	9 A
Maximum torque	5.10 Nm