

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7044-4CH71-1RH0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Engineering data		Mechanical data	
Rated speed (100 K)	4500 rpm	Motor type	Permanent-magnet synchronous motor
Number of poles	6	Motor type	High Dynamic
Rated torque (100 K)	3.0 Nm	Shaft height	48
Rated current	3.9 A	Cooling	Natural cooling
Static torque (60 K)	3.75 Nm	Radial runout tolerance	0.040 mm
Static torque (100 K)	4.5 Nm	Concentricity tolerance	0.08 mm
Stall current (60 K)	4.35 A	Axial runout tolerance	0.08 mm
Stall current (100 K)	5.40 A	Vibration severity grade	Grade A
Moment of inertia	1.620 kgcm ²	Connector size	1
Efficiency	91.0 %	Degree of protection	IP64
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	0.83 Nm/A	Temperature monitoring	Pt1000 temperature sensor
Voltage constant at 20° C	53.0 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	0.81 Ω	Color of the housing	Standard (Anthracite RAL 7016)
Rotating field inductance	10.2 mH	Holding brake	with holding brake
Electrical time constant	12.50 ms	Shaft extension	Plain shaft
Mechanical time constant	0.44 ms	Encoder system	Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
Thermal time constant	45 min		
Shaft torsional stiffness	7900 Nm/rad		
Net weight of the motor	8.0 kg		



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Optimum operating point

Optimum speed	4500 rpm
Optimum power	1.4 kW

Limiting data

Max. permissible speed (mech.)	9000 rpm
Max. permissible speed (inverter)	9000 rpm
Maximum torque	13.0 Nm
Maximum current	16.4 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	9 A
Maximum inverter current	27 A
Maximum torque	13.00 Nm