

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data 1FK7042-3BK71-1QA2

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	High Inertia
Rated torque (100 K)	1.5 Nm	Shaft height	48
Rated current	2.5 A	Cooling	Natural cooling
Static torque (60 K)	2.50 Nm	Radial runout tolerance	0.040 mm
Static torque (100 K)	3.00 Nm	Concentricity tolerance	0.08 mm
Stall current (60 K)	3.55 A	Axial runout tolerance	0.08 mm
Stall current (100 K)	4.40 A	Vibration severity grade	Grade A
Moment of inertia	5.100 kgcm²	Connector size	1
Efficiency	89.0 %	Degree of protection	IP65 and DE flange IP67
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	0.68 Nm/A	Temperature monitoring	Pt1000 temperature sensor
Voltage constant at 20° C	44.5 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	1.15 Ω	Color of the housing	Standard (Anthracite RAL 7016)
Rotating field inductance	8.6 mH	Holding brake	without holding brake
Electrical time constant	7.50 ms	Shaft end	Feather key
Mechanical time constant	3.80 ms	Encoder system	Encoder AS20DQI: absolute encoder single-turn 20 bits
Thermal time constant	30 min		
Shaft torsional stiffness	14600 Nm/rad		
Net weight of the motor	5.1 kg		



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Optimum operating point		Recommended Motor Module	
Optimum speed	5000 rpm	Rated inverter current	5 A
Optimum power	1.0 kW	Maximum inverter current	15 A
Limiting data		Maximum torque	10.30 Nm
Max. permissible speed (mech.)	9000 rpm		
Max. permissible speed (inverter)	9000 rpm		
Maximum torque	10.5 Nm		
Maximum current	15.3 A		