

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7042-3BK71-1BA0

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)	3.0 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 kgcm ²	Connector size	1		
Efficiency	89.0 %	Degree of protection	IP64		
<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	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 extension	Feather key
		Mechanical time constant	3.80 ms	Encoder system	Encoder AS24DQI: absolute encoder single-turn 24 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

Optimum speed	5000 rpm
Optimum power	1.0 kW

Limiting data

Max. permissible speed (mech.)	9000 rpm
Max. permissible speed (inverter)	9000 rpm
Maximum torque	10.5 Nm
Maximum current	15.3 A

Recommended Motor Module

Rated inverter current	5 A
Maximum inverter current	15 A
Maximum torque	10.30 Nm