

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7042-3BK71-1RG1

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 kgcm ²	Connector size	1
Efficiency	89.0 %	Degree of protection	IP65
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	44.5 V/1000*min ⁻¹	Color of the housing	Standard (Anthracite RAL 7016)
Winding resistance at 20° C	1.15 Ω	Holding brake	without holding brake
Rotating field inductance	8.6 mH	Shaft end	Plain shaft
Electrical time constant	7.50 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	3.80 ms		
Thermal time constant	30 min		
Shaft torsional stiffness	14600 Nm/rad		
Net weight of the motor	5.1 kg		



Figure similar

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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		