

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data 1FK7105-2AC71-1RH0-Z
N24

Client order no. :
Order no. :
Offer no. :
Remarks :

Item no. :
Consignment no. :
Project :

Engineering data		Mechanical data	
Rated speed (100 K)	2000 rpm	Motor type	Permanent-magnet synchronous motor
Number of poles	8	Motor type	Compact
Rated torque (100 K)	37.0 Nm	Shaft height	100
Rated current	16.0 A	Cooling	Natural cooling
Static torque (60 K)	40.00 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	48.0 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	16.20 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	20.00 A	Vibration severity grade	Grade A
Moment of inertia	181.600 kgcm ²	Connector size	1.5
Efficiency	93.0 %	Degree of protection	IP64
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	2.37 Nm/A	Temperature monitoring	Pt1000 temperature sensor
Voltage constant at 20° C	157.5 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	0.17 Ω	Color of the housing	Standard (Anthracite RAL 7016)
Rotating field inductance	4.5 mH	Holding brake	Option: reinforced brake
Electrical time constant	25.50 ms	Shaft end	Plain shaft
Mechanical time constant	1.40 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	70 min		
Shaft torsional stiffness	95000 Nm/rad		
Net weight of the motor	43.5 kg		



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Optimum operating point		Recommended Motor Module	
Optimum speed	2000 rpm	Rated inverter current	30 A
Optimum power	7.7 kW	Maximum inverter current	72 A
Limiting data		Maximum torque	150.00 Nm
Max. permissible speed (mech.)	5000 rpm	Special design	
Max. permissible speed (inverter)	3650 rpm	N24	Reinforced brake
Maximum torque	150.0 Nm		
Maximum current	71.0 A		
Holding brake			
Holding brake version	Permanent-magnet brake		
Holding torque	85.0 Nm		
Power supply voltage	DC 24 V ± 10 %		
Coil current	1.6 A		
Opening time	250 ms		
Closing time	70 ms		
Highest braking work	5300 J		