

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data 1FK7105-3BC71-1CH0

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	High Inertia
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)	48.00 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	258.000 kgcm²	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	with holding brake
Electrical time constant	25.50 ms	Shaft end	Plain shaft
Mechanical time constant	2.33 ms	Encoder system	Encoder AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 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	48.9 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		
Max. permissible speed (inverter)	3650 rpm		
Maximum torque	150.0 Nm		
Maximum current	71.0 A		
Holding brake			
Holding brake version	Permanent-magnet brake		
Holding torque	43.0 Nm		
Power supply voltage	DC 24 V ± 10 %		
Coil current	1.0 A		
Opening time	300 ms		
Closing time	70 ms		
Highest braking work	3380 J		