

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data 1FK7060-2AF71-1RB1

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

Item no. :
Consignment no. :
Project :

Engineering data		Mechanical data	
Rated speed (100 K)	3000 rpm	Motor type	Permanent-magnet synchronous motor
Number of poles	8	Motor type	Compact
Rated torque (100 K)	4.7 Nm	Shaft height	63
Rated current	3.7 A	Cooling	Natural cooling
Static torque (60 K)	5.00 Nm	Radial runout tolerance	0.040 mm
Static torque (100 K)	6.0 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	3.60 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	4.45 A	Vibration severity grade	Grade A
Moment of inertia	8.700 kgcm²	Connector size	1
Efficiency	90.0 %	Degree of protection	IP65
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.33 Nm/A	Temperature monitoring	Pt1000 temperature sensor
Voltage constant at 20° C	85.5 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	1.35 Ω	Color of the housing	Standard (Anthracite RAL 7016)
Rotating field inductance	15.2 mH	Holding brake	with holding brake
Electrical time constant	11.30 ms	Shaft extension	Feather key
Mechanical time constant	1.71 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	30 min		
Shaft torsional stiffness	28500 Nm/rad		
Net weight of the motor	8.5 kg		



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Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	5 A
Optimum power	1.5 kW	Maximum inverter current	15 A
Limiting data		Maximum torque	18.00 Nm
Max. permissible speed (mech.)	7200 rpm		
Max. permissible speed (inverter)	6700 rpm		
Maximum torque	18.0 Nm		
Maximum current	15.0 A		
Holding brake			
Holding brake version	Permanent-magnet brake		
Holding torque	13.0 Nm		
Power supply voltage	DC 24 V ± 10 %		
Coil current	0.8 A		
Opening time	100 ms		
Closing time	50 ms		
Highest braking work	380 J		