

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data 1FK7060-5AF71-1KH0-Z N05

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)	3.70 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	4.50 A	Vibration severity grade	Grade A
Moment of inertia	10.200 kgcm²	Connector size	1
Efficiency	90.0 %	Degree of protection	IP64
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.33 Nm/A	Temperature monitoring	KTY84 temperature sensor in the stator winding
Voltage constant at 20° C	84.5 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	1.44 Ω	Color of the housing	without
Rotating field inductance	14.7 mH	Holding brake	with holding brake
Electrical time constant	10.20 ms	Shaft end	Plain shaft
Mechanical time constant	1.94 ms	Encoder system	Encoder AM16DQ: absolute encoder 16 bits (resolution 65536, encoder-internal 32 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
Thermal time constant	30 min		
Shaft torsional stiffness	42000 Nm/rad		
Net weight of the motor	8.0 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	10 A
Limiting data		Maximum torque	13.20 Nm
Max. permissible speed (mech.)	7200 rpm	Special design	
Max. permissible speed (inverter)	6800 rpm	N05	Non-standard shaft end (dimensions as for 1FT5 motors)
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		