

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data1FK7084-2AF71-1DB0-Z
N24



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)	10.0 Nm	Shaft height	80
Rated current	6.5 A	Cooling	Natural cooling
Static torque (60 K)	16.60 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	20.00 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	9.80 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	12.10 A	Vibration severity grade	Grade A
Moment of inertia	47.900 kgcm²	Connector size	1
Efficiency	93.0 %	Degree of protection	IP64
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.66 Nm/A	Temperature monitoring	Pt1000 temperature sensor
Voltage constant at 20° C	106.5 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	0.28 Ω	Color of the housing	Standard (Anthracite RAL 7016)
Rotating field inductance	5.9 mH	Holding brake	Option: reinforced brake
Electrical time constant	21.00 ms	Shaft end	Feather key
Mechanical time constant	1.01 ms	Encoder system	Encoder IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits
Thermal time constant	55 min		
Shaft torsional stiffness	68000 Nm/rad		
Net weight of the motor	21.5 kg		

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Optimum operating point		Recommended Motor Module	
Optimum speed	2500 rpm	Rated inverter current	18 A
Optimum power	3.2 kW	Maximum inverter current	54 A
Limiting data		Maximum torque	61.00 Nm
Max. permissible speed (mech.)	6000 rpm	Special design	
Max. permissible speed (inverter)	5400 rpm	N24	Reinforced brake
Maximum torque	61.0 Nm		
Maximum current	41.0 A		
Holding brake			
Holding brake version	Permanent-magnet brake		
Holding torque	48.0 Nm		
Power supply voltage	DC 24 V ± 10 %		
Coil current	1.0 A		
Opening time	220 ms		
Closing time	65 ms		
Highest braking work	1900 J		