

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data 1FK7083-5AF71-1AB0



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)	10.5 Nm	Shaft height	80
Rated current	7.4 A	Cooling	Natural cooling
Static torque (60 K)	13.30 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	16.0 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	8.60 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	10.40 A	Vibration severity grade	Grade A
Moment of inertia	35.900 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	1.52 Nm/A	Temperature monitoring	KTY84 temperature sensor in the stator winding
Voltage constant at 20° C	97.0 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	0.40 Ω	Color of the housing	without
Rotating field inductance	6.0 mH	Holding brake	with holding brake
Electrical time constant	15.50 ms	Shaft end	Feather key
Mechanical time constant	1.41 ms	Encoder system	Encoder IC2048S/R: incremental encoder sin/cos 1 Vpp 2048 S/R with C and D track
Thermal time constant	50 min		
Shaft torsional stiffness	105000 Nm/rad		
Net weight of the motor	16.5 kg		

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Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	9 A
Optimum power	3.3 kW	Maximum inverter current	18 A
Limiting data		Maximum torque	27.80 Nm
Max. permissible speed (mech.)	6000 rpm		
Max. permissible speed (inverter)	5900 rpm		
Maximum torque	50.0 Nm		
Maximum current	37.0 A		
Holding brake			
Holding brake version	Permanent-magnet brake		
Holding torque	22.0 Nm		
Power supply voltage	DC 24 V ± 10 %		
Coil current	0.9 A		
Opening time	200 ms		
Closing time	60 ms		
Highest braking work	1400 J		