

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data 1FK7103-5AF71-1DG2



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)	14.0 Nm	Shaft height	100
Rated current	12.0 A	Cooling	Natural cooling
Static torque (60 K)	30.00 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	36.0 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	22.80 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	27.50 A	Vibration severity grade	Grade A
Moment of inertia	105.000 kgcm²	Connector size	1.5
Efficiency	93.0 %	Degree of protection	IP65 and DE flange IP67
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.35 Nm/A	Temperature monitoring	KTY84 temperature sensor in the stator winding
Voltage constant at 20° C	86.0 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	0.09 Ω	Color of the housing	without
Rotating field inductance	2.0 mH	Holding brake	without holding brake
Electrical time constant	22.20 ms	Shaft end	Plain shaft
Mechanical time constant	1.55 ms	Encoder system	Encoder IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits
Thermal time constant	65 min		
Shaft torsional stiffness	149000 Nm/rad		
Net weight of the motor	29.0 kg		

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Optimum operating point		Recommended Motor Module	
Optimum speed	2500 rpm	Rated inverter current	30 A
Optimum power	5.4 kW	Maximum inverter current	56 A
Limiting data		Maximum torque	73.00 Nm
Max. permissible speed (mech.)	5000 rpm		
Max. permissible speed (inverter)	6700 rpm		
Maximum torque	108.0 Nm		
Maximum current	84.0 A		