

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data 1FK7083-2AH71-1SG1

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

Item no. :
Consignment no. :
Project :

Engineering data		Mechanical data	
Rated speed (100 K)	4500 rpm	Motor type	Permanent-magnet synchronous motor
Number of poles	8	Motor type	Compact
Rated torque (100 K)	3.0 Nm	Shaft height	80
Rated current	3.6 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)	12.20 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	15.00 A	Vibration severity grade	Grade A
Moment of inertia	26.000 kgcm²	Connector size	1
Efficiency	93.0 %	Degree of protection	IP65
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.06 Nm/A	Temperature monitoring	KTY84 temperature sensor in the stator winding
Voltage constant at 20° C	69.0 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	0.17 Ω	Color of the housing	Standard (Anthracite RAL 7016)
Rotating field inductance	3.2 mH	Holding brake	without holding brake
Electrical time constant	19.30 ms	Shaft extension	Plain shaft
Mechanical time constant	1.14 ms	Encoder system	Multi-pole resolver (number of pole pairs corresponds to number of pole pairs of the motor)
Thermal time constant	50 min		
Shaft torsional stiffness	101000 Nm/rad		
Net weight of the motor	15.6 kg		



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Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	18 A
Optimum power	3.3 kW	Maximum inverter current	54 A
Limiting data		Maximum torque	49.30 Nm
Max. permissible speed (mech.)	6000 rpm		
Max. permissible speed (inverter)	6000 rpm		
Maximum torque	50.0 Nm		
Maximum current	55.0 A		