

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data1FK7080-5AF71-1PA0



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)	6.8 Nm	Shaft height	80
Rated current	4.4 A	Cooling	Natural cooling
Static torque (60 K)	6.60 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	8.00 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	4.00 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	4.80 A	Vibration severity grade	Grade A
Moment of inertia	15.000 kgcm²	Connector size	1
Efficiency	92.0 %	Degree of protection	IP64
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.61 Nm/A	Temperature monitoring	KTY84 temperature sensor in the stator winding
Voltage constant at 20° C	102.5 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	1.04 Ω	Color of the housing	without
Rotating field inductance	14.0 mH	Holding brake	without holding brake
Electrical time constant	13.50 ms	Shaft end	Feather key
Mechanical time constant	1.78 ms	Encoder system	Resolver R14DQ: resolver 14 bits (resolution 16384, internal 2-pole)
Thermal time constant	40 min		
Shaft torsional stiffness	126000 Nm/rad		
Net weight of the motor	10.0 kg		

MLFB-Ordering data 1FK7080-5AF71-1PA0

Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	5 A
Optimum power	2.1 kW	Maximum inverter current	10 A
Limiting data		Maximum torque	16.60 Nm
Max. permissible speed (mech.)	6000 rpm		
Max. permissible speed (inverter)	5600 rpm		
Maximum torque	25.0 Nm		
Maximum current	18.0 A		