

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data 1FK7086-4SF71-1QG0-Z
N05+Y84

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	High Dynamic
Rated torque (100 K)	24.0 Nm	Shaft height	80
Rated current	20.0 A	Cooling	Forced ventilation
Static torque (60 K)	31.50 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	38.00 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	23.00 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	29.00 A	Vibration severity grade	Grade A
Moment of inertia	22.000 kgcm²	Connector size	1.5
Efficiency	93.0 %	Degree of protection	IP54/64
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.33 Nm/A	Temperature monitoring	Pt1000 temperature sensor
Voltage constant at 20° C	84.5 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	0.12 Ω	Color of the housing	Standard (Anthracite RAL 7016)
Rotating field inductance	3.1 mH	Holding brake	without holding brake
Electrical time constant	27.00 ms	Shaft end	Plain shaft
Mechanical time constant	0.46 ms	Encoder system	Encoder AS20DQI: absolute encoder single-turn 20 bits
Thermal time constant	35 min		
Shaft torsional stiffness	84000 Nm/rad		
Net weight of the motor	27.0 kg		



Figure similar

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Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	30 A
Optimum power	7.5 kW	Maximum inverter current	90 A
Limiting data		Maximum torque	92.70 Nm
Max. permissible speed (mech.)	6000 rpm	Special design	
Max. permissible speed (inverter)	6000 rpm	N05	Non-standard shaft end (dimensions as for 1FT5 motors)
Maximum torque	105.0 Nm	Y84	
Maximum current	112.0 A		