

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7083-2AF71-1CH1

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	7.2 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)	8.20 A	Axial runout tolerance	0.10 mm		
Stall current (100 K)	10.10 A	Vibration severity grade	Grade A		
Moment of inertia	29.500 kgcm ²	Connector size	1		
Efficiency	93.0 %	Degree of protection	IP65		
<th colspan="2">Physical constants</th>		Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
		Torque constant	1.58 Nm/A	Temperature monitoring	Pt1000 temperature sensor
		Voltage constant at 20° C	102.5 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
		Winding resistance at 20° C	0.38 Ω	Color of the housing	Standard (Anthracite RAL 7016)
		Rotating field inductance	7.0 mH	Holding brake	with holding brake
		Electrical time constant	18.60 ms	Shaft extension	Plain shaft
		Mechanical time constant	1.18 ms	Encoder system	Encoder AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
		Thermal time constant	50 min		
		Shaft torsional stiffness	72000 Nm/rad		
		Net weight of the motor	18.6 kg		



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Optimum operating point

Optimum speed 3000 rpm

Optimum power 3.3 kW

Limiting data

Max. permissible speed (mech.) 6000 rpm

Max. permissible speed (inverter) 5600 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 \pm 10 %

Coil current 0.9 A

Opening time 200 ms

Closing time 60 ms

Highest braking work 1400 J

Recommended Motor Module

Rated inverter current 9 A

Maximum inverter current 27 A

Maximum torque 40.00 Nm