

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7103-2AF71-1CH0

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)	21.0 A	Axial runout tolerance	0.10 mm		
Stall current (100 K)	27.5 A	Vibration severity grade	Grade A		
Moment of inertia	112.000 kgcm ²	Connector size	1.5		
Efficiency	93.0 %	Degree of protection	IP64		
<th colspan="2">Physical constants</th> <td>Design acc. to Code I</td> <td>IM B5 (IM V1, IM V3)</td>		Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
		Torque constant	1.35 Nm/A	Temperature monitoring	Pt1000 temperature sensor
		Voltage constant at 20° C	89.5 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
		Winding resistance at 20° C	0.09 Ω	Color of the housing	Standard (Anthracite RAL 7016)
		Rotating field inductance	2.4 mH	Holding brake	with holding brake
		Electrical time constant	27.00 ms	Shaft extension	Plain shaft
		Mechanical time constant	1.46 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	65 min		
		Shaft torsional stiffness	108000 Nm/rad		
		Net weight of the motor	33.0 kg		



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Optimum operating point

Optimum speed	2500 rpm
Optimum power	5.4 kW

Limiting data

Max. permissible speed (mech.)	5000 rpm
Max. permissible speed (inverter)	5000 rpm
Maximum torque	108.0 Nm
Maximum current	84.0 A

Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	43.0 Nm
Power supply voltage	DC 24 V \pm 10 %
Coil current	1.0 A
Opening time	300 ms
Closing time	70 ms
Highest braking work	3380 J

Recommended Motor Module

Rated inverter current	30 A
Maximum inverter current	90 A
Maximum torque	108.00 Nm