

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7105-3BC71-1RB1

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Engineering data		Mechanical data	
Rated speed (100 K)	2000 rpm	Motor type	Permanent-magnet synchronous motor
Number of poles	8	Motor type	High Inertia
Rated torque (100 K)	37.0 Nm	Shaft height	100
Rated current	16.0 A	Cooling	Natural cooling
Static torque (60 K)	40.00 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	48.0 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	16.20 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	20.00 A	Vibration severity grade	Grade A
Moment of inertia	258.000 kgcm ²	Connector size	1.5
Efficiency	93.0 %	Degree of protection	IP65
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	2.37 Nm/A	Temperature monitoring	Pt1000 temperature sensor
Voltage constant at 20° C	157.5 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	4.5 mH	Holding brake	with holding brake
Electrical time constant	25.50 ms	Shaft extension	Feather key
Mechanical time constant	2.33 ms	Encoder system	Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
Thermal time constant	70 min		
Shaft torsional stiffness	95000 Nm/rad		
Net weight of the motor	48.9 kg		



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Optimum operating point

Optimum speed	2000 rpm
Optimum power	7.7 kW

Limiting data

Max. permissible speed (mech.)	5000 rpm
Max. permissible speed (inverter)	3650 rpm
Maximum torque	150.0 Nm
Maximum current	71.0 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	72 A
Maximum torque	150.00 Nm