

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7081-3BF71-1BH1



Figure similar

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 Inertia
Rated torque (100 K)	8.7 Nm	Shaft height	80
Rated current	6.8 A	Cooling	Natural cooling
Static torque (60 K)	10.00 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	12.0 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	7.10 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	8.70 A	Vibration severity grade	Grade A
Moment of inertia	52.000 kgcm ²	Connector size	1
Efficiency	93.0 %	Degree of protection	IP65
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
		Temperature monitoring	Pt1000 temperature sensor
Torque constant	1.38 Nm/A	Electrical connectors	Connectors for signals and power rotatable
Voltage constant at 20° C	88.5 V/1000*min ⁻¹	Color of the housing	Standard (Anthracite RAL 7016)
Winding resistance at 20° C	0.42 Ω	Holding brake	with holding brake
Rotating field inductance	7.7 mH	Shaft extension	Plain shaft
Electrical time constant	18.20 ms	Encoder system	Encoder AS24DQI: absolute encoder single-turn 24 bits
Mechanical time constant	3.30 ms		
Thermal time constant	45 min		
Shaft torsional stiffness	71000 Nm/rad		
Net weight of the motor	18.2 kg		



Figure similar

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Optimum operating point

Optimum speed	3000 rpm
Optimum power	2.8 kW

Limiting data

Max. permissible speed (mech.)	6000 rpm
Max. permissible speed (inverter)	6000 rpm
Maximum torque	37.0 Nm
Maximum current	30.0 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	34.10 Nm