

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7083-2AF71-1RB0-Z
K23+M03



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	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)	16.00 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	IP64
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
		Temperature monitoring	Pt1000 temperature sensor
Torque constant	1.58 Nm/A	Electrical connectors	Connectors for signals and power rotatable
Voltage constant at 20° C	102.5 V/1000*min ⁻¹	Color of the housing	Standard (Anthracite RAL 7016)
Winding resistance at 20° C	0.38 Ω	Holding brake	with holding brake
Rotating field inductance	7.0 mH	Shaft end	Feather key
Electrical time constant	18.60 ms	Encoder system	Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
Mechanical time constant	1.18 ms		
Thermal time constant	50 min		
Shaft torsional stiffness	72000 Nm/rad		
Net weight of the motor	18.6 kg		



Figure similar

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Optimum operating point

Optimum speed	3000 rpm
Optimum power	3.3 kW

Limiting data

Max. permissible speed (mech.)	4500 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

Special design

K23	Special painting for climate group Worldwide: Primer and varnish
M03	Version for Zone 2 hazardous areas according to EN 50021/IEC 60079-15