

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7081-2AF71-1RB0-Z
N16+X08



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)	8.7 Nm	Shaft height	80		
Rated current	6.9 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	23.500 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		
		Electrical connectors	Connectors for signals and power rotatable		
		Color of the housing	Suitable for food grade applications white aluminum RAL 9006		
		Holding brake	with holding brake		
		Shaft extension	Feather key		
		Encoder system	Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)		
		Torque constant	1.38 Nm/A		
		Voltage constant at 20° C	88.5 V/1000*min ⁻¹		
		Winding resistance at 20° C	0.42 Ω		
Rotating field inductance	7.7 mH				
Electrical time constant	18.20 ms				
Mechanical time constant	1.35 ms				
Thermal time constant	45 min				
Shaft torsional stiffness	76000 Nm/rad				
Net weight of the motor	15.9 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

Special design

N16	Nickel plated connectors and paint varnish for increased chemical resistance
X08	Paint finish: Food-suited color white aluminium RAL 9006