

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7042-5AF71-1DH5-Z
N05

No image
available for this
configuration.

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)	2.6 Nm	Shaft height	48		
Rated current	1.9 A	Cooling	Natural cooling		
Static torque (60 K)	2.50 Nm	Radial runout tolerance	0.040 mm		
Static torque (100 K)	3.0 Nm	Concentricity tolerance	0.08 mm		
Stall current (60 K)	1.80 A	Axial runout tolerance	0.08 mm		
Stall current (100 K)	2.20 A	Vibration severity grade	Grade A		
Moment of inertia	3.450 kgcm ²	Connector size	1		
Efficiency	89.0 %	Degree of protection	IP65 and DE flange IP67		
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)		
		Temperature monitoring	KTY84 temperature sensor in the stator winding		
		Electrical connectors	Connectors for signals and power rotatable		
		Color of the housing	Standard (Anthracite RAL 7016)		
		Holding brake	with holding brake		
		Shaft extension	Plain shaft		
		Encoder system	Encoder IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits		
		Torque constant	1.40 Nm/A		
		Voltage constant at 20° C	89.0 V/1000*min ⁻¹		
		Winding resistance at 20° C	5.15 Ω		
Rotating field inductance	29.0 mH				
Electrical time constant	5.60 ms				
Mechanical time constant	2.37 ms				
Thermal time constant	30 min				
Shaft torsional stiffness	16000 Nm/rad				
Net weight of the motor	5.4 kg				

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Optimum operating point

Optimum speed	3000 rpm
Optimum power	0.8 kW

Limiting data

Max. permissible speed (mech.)	9000 rpm
Max. permissible speed (inverter)	6500 rpm
Maximum torque	10.5 Nm
Maximum current	7.4 A

Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	4.0 Nm
Power supply voltage	DC 24 V \pm 10 %
Coil current	0.5 A
Opening time	70 ms
Closing time	30 ms
Highest braking work	150 J

Recommended Motor Module

Rated inverter current	3 A
Maximum inverter current	6 A
Maximum torque	8.40 Nm

Special design

N05 Non-standard shaft extension (dimensions as for 1FT5 motors)