

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7042-2AF71-1CH2



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	2.0 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	3.200 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	Pt1000 temperature sensor
		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 AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
Torque constant	1.38 Nm/A		
Voltage constant at 20° C	90.0 V/1000*min ⁻¹		
Winding resistance at 20° C	4.67 Ω		
Rotating field inductance	35.0 mH		
Electrical time constant	7.50 ms		
Mechanical time constant	2.15 ms		
Thermal time constant	30 min		
Shaft torsional stiffness	11400 Nm/rad		
Net weight of the motor	5.3 kg		



Figure similar

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Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	3 A
Optimum power	0.8 kW	Maximum inverter current	9 A
Limiting data		Maximum torque	10.50 Nm
Max. permissible speed (mech.)	9000 rpm		
Max. permissible speed (inverter)	6400 rpm		
Maximum torque	10.5 Nm		
Maximum current	7.6 A		
Holding brake			
Holding brake version	Permanent-magnet brake		
Holding torque	4.0 Nm		
Power supply voltage	DC 24 V ± 10 %		
Coil current	0.5 A		
Opening time	70 ms		
Closing time	30 ms		
Highest braking work	150 J		