

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7042-2AC71-1CH1-Z
X01



Figure similar

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Engineering data		Mechanical data	
Rated speed (100 K)	2000 rpm	Motor type	Permanent-magnet synchronous motor
Number of poles	8	Motor type	Compact
Rated torque (100 K)	2.8 Nm	Shaft height	48
Rated current	1.6 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)	1.30 A	Axial runout tolerance	0.08 mm
Stall current (100 K)	1.61 A	Vibration severity grade	Grade A
Moment of inertia	3.200 kgcm ²	Connector size	1
Efficiency	88.0 %	Degree of protection	IP65
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.86 Nm/A	Temperature monitoring	Pt1000 temperature sensor
Voltage constant at 20° C	122.0 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	8.60 Ω	Color of the housing	Jet black, matt RAL 9005
Rotating field inductance	64.0 mH	Holding brake	with holding brake
Electrical time constant	7.40 ms	Shaft extension	Plain shaft
Mechanical time constant	2.15 ms	Encoder system	Encoder AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
Thermal time constant	30 min		
Shaft torsional stiffness	11400 Nm/rad		
Net weight of the motor	5.3 kg		

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Optimum operating point

Optimum speed	2000 rpm
Optimum power	0.6 kW

Limiting data

Max. permissible speed (mech.)	9000 rpm
Max. permissible speed (inverter)	4750 rpm
Maximum torque	10.5 Nm
Maximum current	5.6 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	9 A
Maximum torque	10.50 Nm

Special design

X01 Paint finish: Jet black, matt RAL 9005