

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data 1FK7042-2AC71-1FB1-Z
X04

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)	3.00 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
		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	Pebble gray RAL 7032
		Holding brake	with holding brake
		Shaft end	Feather key
		Encoder system	Encoder AM22DQ: absolute encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)

Physical constants	
Torque constant	1.86 Nm/A
Voltage constant at 20° C	122.0 V/1000*min ⁻¹
Winding resistance at 20° C	8.60 Ω
Rotating field inductance	64.0 mH
Electrical time constant	7.40 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



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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

X04 Paint finish: Pebble gray RAL 7032