SIEMENS

Data sheet for SIMOTICS S-1FK7

Article No. : **1FK7022-5AK21-1PH3**



Figure similar

Client order no. :
Order no. :
Offer no. :
Remarks :

Item no. :
Consignment no. :
Project :

Engineering data	
Rated speed (100 K)	6,000 rpm
Number of poles	6
Rated torque (100 K)	0.6 Nm
Rated current	1.4 A
Static torque (60 K)	0.70 Nm
Static torque (100 K)	0.85 Nm
Stall current (60 K)	1.50 A
Stall current (100 K)	1.80 A
Moment of inertia	0.350 kgcm²
Efficiency	86.0 %

Physical constants	
Torque constant	0.46 Nm/A
Voltage constant at 20° C	29.0 V/1000*min⁻¹
Winding resistance at 20° C	4.20 Ω
Rotating field inductance	9.1 mH
Electrical time constant	2.20 ms
Mechanical time constant	1.70 ms
Thermal time constant	18 min
Shaft torsional stiffness	3,000 Nm/rad
Net weight of the motor	2.0 kg

Mechanical data	
Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	28
Cooling	Natural cooling
Radial runout tolerance	0.035 mm
Concentricity tolerance	0.08 mm
Axial runout tolerance	0.08 mm
Vibration severity grade	Grade A
Connector size	M23
Degree of protection	IP64
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 end	Plain shaft
Encoder system	Resolver R14DQ: resolver 14 bits (resolution 16384, internal 2-pole)

Optimum operating point	
Optimum speed	6,000 rpm
Optimum power	0.4 kW

Limiting data	
Max. permissible speed (mech.)	10,000 rpm
Max. permissible speed (inverter)	9,990 rpm
Maximum torque	3.4 Nm
Maximum current	8.0 A

Holding brake	
Holding brake version	Permanent-magnet brake
Holding torque	1.0 Nm
Power supply voltage	DC 24 V ± 10 %
Coil current	0.3 A
Opening time	30 ms
Closing time	20 ms
Highest braking work	8 J

Recommended Motor Module	
Rated inverter current	2 A
Maximum inverter current	5 A
Maximum torque	2.00 Nm