SIEMENS

Data sheet for SIMOTICS S-1FK7

Article No. : 1FK7042-2AF21-1BB2

Figure similar

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

Item no. :
Consignment no. :
Project :

Engineering data	
Rated speed (100 K)	3,000 rpm
Number of poles	8
Rated torque (100 K)	2.6 Nm
Rated current	3.5 A
Static torque (60 K)	2.50 Nm
Static torque (100 K)	3.00 Nm
Stall current (60 K)	3.20 A
Stall current (100 K)	3.95 A
Moment of inertia	3.200 kgcm²
Efficiency	88.0 %

Physical constants	
Torque constant	0.76 Nm/A
Voltage constant at 20° C	49.6 V/1000*min⁻¹
Winding resistance at 20° C	1.44 Ω
Rotating field inductance	10.6 mH
Electrical time constant	7.40 ms
Mechanical time constant	2.15 ms
Thermal time constant	30 min
Shaft torsional stiffness	11,400 Nm/rad
Net weight of the motor	5.3 kg

Mechanical data	
Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	48
Cooling	Natural cooling
Radial runout tolerance	0.040 mm
Concentricity tolerance	0.08 mm
Axial runout tolerance	0.08 mm
Vibration severity grade	Grade A
Connector size	1
Degree of protection	IP65 and DE flange IP67
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	Feather key
Encoder system	Encoder AS24DQI: absolute encoder single-turn 24 bits

Optimum operating point	
Optimum speed	3,000 rpm
Optimum power	0.8 kW

Limiting data	
Max. permissible speed (mech.)	9,000 rpm
Max. permissible speed (inverter)	5,800 rpm
Maximum torque	10.5 Nm
Maximum current	13.8 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

Recommended Motor Module	
Rated inverter current	4 A
Maximum inverter current	8 A
Maximum torque	6.00 Nm