

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7034-2AF21-1CB2

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	6	Motor type	Compact																				
Rated torque (100 K)	1.4 Nm	Shaft height	36																				
Rated current	1.8 A	Cooling	Natural cooling																				
Static torque (60 K)	1.35 Nm	Radial runout tolerance	0.035 mm																				
Static torque (100 K)	1.6 Nm	Concentricity tolerance	0.08 mm																				
Stall current (60 K)	1.55 A	Axial runout tolerance	0.08 mm																				
Stall current (100 K)	1.90 A	Vibration severity grade	Grade A																				
Moment of inertia	1.000 kgcm ²	Connector size	1																				
Efficiency	85.0 %	Degree of protection	IP65 and DE flange IP67																				
<table border="1"> <thead> <tr> <th colspan="2">Physical constants</th> </tr> </thead> <tbody> <tr> <td>Torque constant</td> <td>0.84 Nm/A</td> </tr> <tr> <td>Voltage constant at 20° C</td> <td>55.0 V/1000*min⁻¹</td> </tr> <tr> <td>Winding resistance at 20° C</td> <td>4.46 Ω</td> </tr> <tr> <td>Rotating field inductance</td> <td>17.2 mH</td> </tr> <tr> <td>Electrical time constant</td> <td>3.85 ms</td> </tr> <tr> <td>Mechanical time constant</td> <td>1.71 ms</td> </tr> <tr> <td>Thermal time constant</td> <td>30 min</td> </tr> <tr> <td>Shaft torsional stiffness</td> <td>3750 Nm/rad</td> </tr> <tr> <td>Net weight of the motor</td> <td>3.9 kg</td> </tr> </tbody> </table>		Physical constants		Torque constant	0.84 Nm/A	Voltage constant at 20° C	55.0 V/1000*min ⁻¹	Winding resistance at 20° C	4.46 Ω	Rotating field inductance	17.2 mH	Electrical time constant	3.85 ms	Mechanical time constant	1.71 ms	Thermal time constant	30 min	Shaft torsional stiffness	3750 Nm/rad	Net weight of the motor	3.9 kg	Design acc. to Code I	IM B5 (IM V1, IM V3)
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Net weight of the motor	3.9 kg																						
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	Feather key	Encoder system	Encoder AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)																				



Figure similar

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Optimum operating point

Optimum speed	3000 rpm
Optimum power	0.5 kW

Limiting data

Max. permissible speed (mech.)	10000 rpm
Max. permissible speed (inverter)	5200 rpm
Maximum torque	6.5 Nm
Maximum current	8.0 A

Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	1.9 Nm
Power supply voltage	DC 24 V \pm 10 %
Coil current	0.3 A
Opening time	50 ms
Closing time	30 ms
Highest braking work	40 J

Recommended Motor Module

Rated inverter current	2 A
Maximum inverter current	5 A
Maximum torque	3.90 Nm