

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7100-2AC74-1TB2

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)	14.5 Nm	Shaft height	100																				
Rated current	7.1 A	Cooling	Natural cooling																				
Static torque (60 K)	14.90 Nm	Radial runout tolerance	0.050 mm																				
Static torque (100 K)	18.0 Nm	Concentricity tolerance	0.10 mm																				
Stall current (60 K)	6.80 A	Axial runout tolerance	0.10 mm																				
Stall current (100 K)	8.40 A	Vibration severity grade	Grade A																				
Moment of inertia	62.000 kgcm ²	Connector size	1																				
Efficiency	92.0 %	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>2.14 Nm/A</td> </tr> <tr> <td>Voltage constant at 20° C</td> <td>138.0 V/1000*min⁻¹</td> </tr> <tr> <td>Winding resistance at 20° C</td> <td>0.55 Ω</td> </tr> <tr> <td>Rotating field inductance</td> <td>12.7 mH</td> </tr> <tr> <td>Electrical time constant</td> <td>23.00 ms</td> </tr> <tr> <td>Mechanical time constant</td> <td>1.95 ms</td> </tr> <tr> <td>Thermal time constant</td> <td>55 min</td> </tr> <tr> <td>Shaft torsional stiffness</td> <td>135000 Nm/rad</td> </tr> <tr> <td>Net weight of the motor</td> <td>21.0 kg</td> </tr> </tbody> </table>		Physical constants		Torque constant	2.14 Nm/A	Voltage constant at 20° C	138.0 V/1000*min ⁻¹	Winding resistance at 20° C	0.55 Ω	Rotating field inductance	12.7 mH	Electrical time constant	23.00 ms	Mechanical time constant	1.95 ms	Thermal time constant	55 min	Shaft torsional stiffness	135000 Nm/rad	Net weight of the motor	21.0 kg	Design acc. to Code I	IM B5 (IM V1, IM V3)
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Net weight of the motor	21.0 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																				
Holding brake	with holding brake	Shaft extension	Feather key																				
Encoder system	Resolver 2-pole																						



Figure similar

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Optimum operating point

Optimum speed 2000 rpm

Optimum power 3.0 kW

Limiting data

Max. permissible speed (mech.) 5000 rpm

Max. permissible speed (inverter) 4200 rpm

Maximum torque 55.0 Nm

Maximum current 28.0 A

Holding brake

Holding brake version Permanent-magnet brake

Holding torque 23.0 Nm

Power supply voltage DC 24 V \pm 10 %

Coil current 1.0 A

Opening time 300 ms

Closing time 70 ms

Highest braking work 3380 J

Recommended Motor Module

Rated inverter current 9 A

Maximum inverter current 27 A

Maximum torque 53.40 Nm